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09/993,419

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Jun-Ichi Matsuda

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EXAMINER

CONTEE, JOY KIMBERLY

ART UNIT

PAPER NUMBER

2686

DATE MAILED: 01/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/993,419

Applicant(s)

MATSUDA, JUN-ICHI

Examiner

Joy K Contee

Art Unit

2686

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-16,18-20,22 and 23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,11,16 and 18-220 is/are rejected.
- 7) ☒ Claim(s) 9,10 and 12-15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's arguments with respect to claim 3 have been considered but are moot in view of the new grounds of rejection.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segev, U.S. Patent No. 5,566,022, in view of Driessen et al., U.S. Patent No. 5,936,578.

Regarding claim 1, Segev discloses a wireless communication network for communication between first and second rooms separated by a partition, and comprising:

first and second wireless communication apparatuses having radio irradiating surfaces, said partition having a first surface facing said first room and a second surface facing said second room, and said first wireless communication apparatus being installed so that the radio irradiating surface thereof is adhered to the first surface of said first room, said second wireless communication apparatus being installed so that the radio irradiating surface thereof is adhered to the second surface of said second room and, thus, said first and second wireless communication apparatuses establishing a wireless connection by setting said partition as a radio transmitting medium (col. 4, lines 44-57 see Fig. 2).

Segev fails to explicitly disclose wherein said first and second wireless communication apparatuses respectively have transmitting antenna and receiving antenna in which, when an irradiating angle or an angle of field of view is equal to 0 and 45 degrees an antenna gain is equal to a predetermined value or more.

In a similar field of endeavor, Driessen discloses wherein said first and second wireless communication apparatuses respectively have transmitting antenna and receiving antenna in which, when an irradiating angle or an angle of field of view is equal to 0 and 45 degrees an antenna gain is equal to a predetermined value or more (i.e., reads on transmitter or receiver antennas with beamwidths of 15 and 45 degrees respectively in order to produce a signal power with difference of approximately 13 dB). (col. 8, lines 27-37 and col. 9, lines 7-12).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Segev to include two antennas with an angle of view between 0 and 45 degrees, with an expected or predetermined antenna gain for the purpose of minimizing the multipath.

Regarding claim 3, Segev as modified by Driessen discloses a wireless communication network according to claim 1, wherein said first and second wireless communication apparatuses respectively transmit a radio signal whose carrier frequency is 10 GHz or more, via said wireless connection (see Driessen, col. 7, lines 8-13).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Segev to include transmitters operating with a frequency of 10GHz of

Art Unit: 2686

more (i.e., 19GHz) for the purpose of using as a wireless extension of a PON or similar networks as taught in Driessen (col.7, lines 7-18).

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Segev and Driessen, in further view of Macdonald et al. ("Macdonald"), U.S. Patent No. 5,835,128.

Regarding claim 4, Segev as modified by Driessen discloses a wireless communication network according to claim 3, but fails to explicitly disclose wherein said first and second wireless communication apparatuses respectively transmit a radio signal whose carrier signal ranges 55 GHz to 65 GHz, via said wireless connection.

In a similar field of endeavor, Macdonald discloses wherein said first and second wireless communication apparatuses respectively transmit a radio signal whose carrier signal ranges 55 GHz to 65 GHz, via said wireless connection (col. 6, lines 58-67).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination to include the above frequency range for the purpose of including the V-band range for possible incoming television signals or the like.

5. Claims 5, 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segev and Driessen, in further view of Knapp, U.S. Patent No. 5,218,356.

Regarding claims 5 and 7, the combination of Segev and Driessen disclose a wireless communication network according to claim 2. The combination fails to explicitly disclose wherein each of said first and second wireless communication apparatuses comprises: a first physical layer circuit (or a "third" physical layer) for transmitting data to a wired communication network; and a second physical layer circuit

Art Unit: 2686

(or a "fourth" physical layer) for transmitting data via said wireless connection; and a repeater function is implemented by transmitting data between said first physical layer circuit and said second physical layer circuit or a bridge function.

In a similar field of endeavor, Knapp discloses a first physical layer circuit (i.e., reads on transponder 1 out of 2) for transmitting data to a wired communication network (i.e., reads on LAN workstations) (col. 4, lines 51-55); and a second physical layer circuit (i.e., reads on transponder 2 out of 2) for transmitting data via a wireless connection, wherein a repeater function (via relay sections) is implemented by transmitting data between said first physical layer circuit and said second physical layer circuit (col. 3, line 56 to col. 4, line 55).

Also, Knapp discloses a data link layer circuit for processing data inputted by said third physical layer circuit every data frame and outputting it to said fourth physical layer circuit, and processing data inputted by said fourth physical layer circuit every data frame and outputting it to said third physical layer circuit, and said data link layer circuit outputs only data to be outputted to said third or fourth physical layer circuit to implement a bridge function (i.e., reads on radio couplers 30) (col. 4, lines 11-33).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination of Segev and Driessen to include transmitting data to a wired communication network and transmitting data via a wireless communication for the purpose of accommodating an indoor communication network, wherein wireless devices may communicate with computers and the like.

Art Unit: 2686

Regarding claim 11, the combination of Segev, Driessen and Knapp disclose the wireless communication apparatus which is used for the wireless communication network according to 5 and comprising signal intensity display means for displaying an intensity of a signal which is received from said wireless connection (see Knapp, col. 4, lines 51-67).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify the combination to include a display indicating the intensity of the signal for the purpose of allowing operators the knowledge of the effectiveness of the repeater system.

6. Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Segev, Driessen and Knapp, in further view of Levy, U.S. Patent No. 6,275,886.

Regarding claims 6 and 8, the combination of Segev and Driessen as modified by Knapp disclose a wireless communication network according to claims 5 and 7, respectively, but fails to disclose wherein said wired communication network is a network which conforms to an IEEE1394 standard.

In a similar field of endeavor, Levy discloses a repeater in a IEEE 1394 environment.

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Segev, Driessen and Knapp to include IEEE 1394 capability for the purpose of utilizing microprocessor based interface arrangements for IEEE 1394 buses.

Art Unit: 2686

7. Claims 16,18,19,20,22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp, in view Driessen.

Regarding claim 16, Knapp discloses a wireless communication apparatus comprising:

a first physical layer circuit (i.e., reads on transponder 1 out of 2) for transmitting data to a wired communication network (i.e., reads on LAN workstations) (col. 4, lines 51-55); and

a second physical layer circuit (i.e., reads on transponder 2 out of 2) for transmitting data via a wireless connection, wherein a repeater function (via relay sections) is implemented by transmitting data between said first physical layer circuit and said second physical layer circuit (col. 3, line 56 to col. 4, line 55).

Knapp fails to explicitly disclose wherein said first and second wireless communication apparatuses respectively have transmitting antenna and receiving antenna in which, when an irradiating angle or an angle of field of view is equal to 0 and 45 degrees an antenna gain is equal to a predetermined value or more.

In a similar field of endeavor, Driessen discloses wherein said first and second wireless communication apparatuses respectively have transmitting antenna and receiving antenna in which, when an irradiating angle or an angle of field of view is equal to 0 and 45 degrees an antenna gain is equal to a predetermined value or more (i.e., reads on transmitter or receiver antennas with beamwidths of 15 and 45 degrees respectively in order to produce a signal power with difference of approximately 13 dB). (col. 8, lines 27-37 and col. 9, lines 7-12).



Art Unit: 2686

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Knapp to include two antennas with an angle of view between 0 and 45 degrees, with an expected or predetermined antenna gain for the purpose of minimizing the multipath.

Regarding claim 18, Knap as modified by Driessen discloses a wireless communication apparatus according to claim 16, further comprising: a frequency filter (i.e., reads on IR filter) for preventing the reception of a signal having the same radio as radio transmitted by said apparatus (see Knapp, col. 3, lines 37-38).

Regarding claim 19, Knap as modified by Driessen discloses a wireless communication apparatus according to claim 16 wherein said apparatus has a radio irradiating surface and can be fixed by adhering said radio irradiating surface to a partitioning surface (see Knapp, col. 2, line 67 to col. 3, line 8).

Regarding claim 20, Knap discloses a wireless communication apparatus, comprising:

a third physical layer circuit (i.e., reads on transponder 1 out of 2) for transmitting data to a wired communication network (i.e., reads on LAN workstations) (see Knapp, col. 4, lines 51-55); and

a fourth physical layer circuit (i.e., reads on transponder 1 out of 2) for transmitting data to a wired communication network (i.e., reads on LAN workstations) (see Knapp, col. 4, lines 51-55); and

a data link layer circuit for processing data inputted by said third physical layer circuit every data frame and outputting it to said fourth physical layer circuit, and

Art Unit: 2686

processing data inputted by said fourth physical layer circuit every data frame and outputting it to said third physical layer circuit, and said data link layer circuit outputs only data to be outputted to said third or fourth physical layer circuit to implement a bridge function (i.e., reads on radio couplers 30) (see Knapp, col. 4, lines 11-33).

Knapp fails to explicitly disclose wherein said first and second wireless communication apparatuses respectively have transmitting antenna and receiving antenna in which, when an irradiating angle or an angle of field of view is equal to 0 and 45 degrees an antenna gain is equal to a predetermined value or more.

In a similar field of endeavor, Driessen discloses wherein said first and second wireless communication apparatuses respectively have transmitting antenna and receiving antenna in which, when an irradiating angle or an angle of field of view is equal to 0 and 45 degrees an antenna gain is equal to a predetermined value or more (i.e., reads on transmitter or receiver antennas with beamwidths of 15 and 45 degrees respectively in order to produce a signal power with difference of approximately 13 dB). (col. 8, lines 27-37 and col. 9, lines 7-12).

At the time of the invention it would have been obvious to one of ordinary skill in the art to modify Knapp to include two antennas with an angle of view between 0 and 45 degrees, with an expected or predetermined antenna gain for the purpose of minimizing the multipath.

Regarding claim 22, Knap as modified by Driessen discloses a wireless communication apparatus according to claim 20, further comprising: a frequency filter

Art Unit: 2686

(i.e., reads on IR filter) for preventing the reception of a signal having the same radio as radio transmitted by said apparatus (see Knapp, col. 3, lines 37-38).

Regarding claim 23 Knap as modified by Driessen discloses a wireless communication apparatus according to claim 20, wherein said apparatus has a radio irradiating surface and can be fixed by adhering said radio irradiating surface to a partitioning surface (see Knapp, col. 2, line 67 to col. 3, line 8).

***Allowable Subject Matter***

8. Claims 9, 10, 12-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K Contee whose telephone number is 703-308-0149. The examiner can normally be reached on M (alternating), T & Th, 5:30 a.m. to 2:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha Banks-Harold can be reached on 703-305-4379. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2686

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JC

1/9/05

  
**J. K. CONTEE**  
**PATENT EXAMINER**